Group: _____

Name: _____

Matr.Nr.: _____

Points: _____

Assignment 7

Formal Models
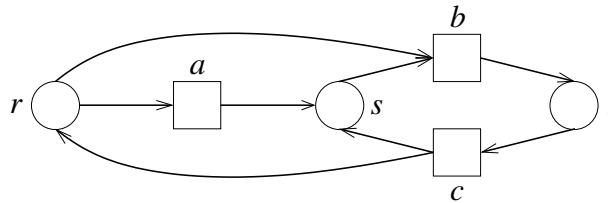
Summer Semester 2010

Due: 20.05.2010   08:30

Institute for Formal Models and Verification, Dr. Robert Brummayer, Dipl.-Ing. Florian Lonsing

Exercise 25

Given CEN N as shown above.

a) Specify N formally as 4-tupel $N = (C, I, E, G)$ including all of its components.

b) For each event e of N, specify post-conditions $G(e)$ and pre-conditions $G^{-1}(e)$.

Exercise 26

Given CEN N from Exercise 25. Justify your answers to the following questions.

a) How many different markings are possible in N *theoretically*?

b) For *each* possible marking m of N, determine the set of *all* events which can fire in m.

c) Given marking $\{r, s\}$, what is the marking obtained when event b fires?

d) Given marking $\{t\}$, what is the marking obtained when event c fires?

Exercise 27

Draw the LTS for the CEN as given on lecture slide 39.

Exercise 28

Generalize the CEN from lecture slide 39 as follows: 2 producers and 2 consumers synchronize on a buffer with a capacity of 2. Draw your solution.